

XX. *On three collections of Rhopalocera from Fiji, and one from Samoa.* By GUSTAVUS A. WATERHOUSE, B.Sc., B.E., F.C.S.

[Read June 1st, 1904.]

HAVING received during the last year several collections of butterflies from the South Sea Islands, to all of which localities were attached, and to most of which dates were added, I have thought it well to draw up a list, and at the same time add a few notes of comparison with allied Australian species.

In 1886, Mr. T. Steel, F.C.S., F.I.C., made a collection of eight species at Nausori on the Rewa River, Viti Levu.

During December 1902, Mr. T. Guthrie, Ph.D., made a collection consisting of ten species at Lautoka, Viti Levu.

During 1903 my brother, Mr. E. G. Waterhouse, B.A., visited Fiji and Samoa and brought back a large number of specimens. The localities he visited in Fiji were Bua, Vanua Levu (22nd May to 4th June), and Navaloa, Viti Levu (9th to 11th June). In Samoa his dates were Apia (16th to 18th June), Lufilufi (19th to 22nd June), and Satapouala (4th July) on the island of Upolu; Satapaitea (27th June to 1st July) and Salilalonga (2nd July) on the island of Savaii.

Of previous papers on these islands we have those of Herrich-Schäffer (Stett. Ent. Zeit., 1869, pp. 65-80) and Butler (P.Z.S. 1874, pp. 274-281, and 1875, pp. 619, 620; Ann. Mag. Nat. Hist., 1884, pp. 343-348), while in 1892 Mr. H. H. Druce (P.Z.S., pp. 434-446) gave an account of the *Lycænidæ* of the South Pacific.

I have followed the nomenclature used in my catalogue of the *Rhopalocera* of Australia* in my comparisons with Australian forms.

Anosia menippe, Hübner.

Nausori, ♂ ♀. Lautoka, 3 ♂. Lufilufi, ♂. Satapaitea, ♀.

I can detect no difference between Fijian and Samoan specimens, nor do they differ from Australian specimens, nor from figures of the North American insect.

* Memoirs of the N.S.W. Naturalists' Club, No. 1, 1903.

Limnas petilia, Stoll.

Lautoka, ♂ ♀.

These are identical with Eastern Australian specimens. I have seen no previous record of this from Fiji.

Tirumala mellitula, Herrich-Schäffer.

Lufilufi, 9 ♂, 1 ♀. Satapaitea, 2 ♂.

There is little to distinguish this species from the Australian *T. hamata*, Macl., excepting its much smaller size.

Nipara eschscholtzii, Felder.

Lautoka, ♂. Bua, ♂. Navaloa, ♂.

Calliplea forsteri, Felder.

Nausori, 2 ♂.

From the allied Australian *C. tulliolus*, Fabr., this form differs by having the blue sheen of the fore-wing more extensive, the row of white spots of the fore-wing both above and below not so large, especially towards the costa.

Deragena proserpina, Butler.

Nausori, ♂. Navaloa, 2 ♂. Bua, ♀.

These specimens agree with Felder's figure of *E. herrichii*, which is given as a synonym by Butler and Moore.

Deragena schmeltzii, Herrich-Schäffer.

Satapaitea, 4 ♂. Lufilufi, ♂. Apia, ♀.

I have some little doubt as to the correctness of this determination.

Acræa andromacha, Fabr.

Lautoka, ♀.

The single Fijian specimen only differs from Australian specimens in having the submarginal row of pale spots in the hind-wing larger, and the black spots on the discocellulars of the hind-wing absent.

Atella bowdenia, M. R. Butler.

Satapaitea, ♂. Lufilufi, 3 ♂. Apia, ♂.

This sub-species of *A. egista*, Cram., is much smaller, and paler in colour both above and below than the Australian form.

Junonia villida, Fabr.

Lautoka, ♂ ♀. Bua, 2 ♂. Lufilufi, ♂. Satapaitea, 2 ♂ ♀. Satapouala, ♂.

In the Australian form the yellowish-red rings of the hind-wing are usually separated by a brown bar; in Fijian specimens, which are smaller, this bar is linear, and the reddish colour is darker. Samoan specimens average about half the size of Australian, are very much darker in colour, and the encircling rings are joined to form continuous bands in the hind-wing.

Hypolimnas bolina, Linn.

This species was received in considerable quantities from all the localities visited, females greatly predominating. The males showed no variation from the ordinary form found in Australia, excepting in their somewhat smaller size. On the other hand, no two females were alike amongst about twenty specimens from Fiji; in colour some were nearly white, others brown, and others a beautiful reddish brown; the whitish band from the costa to the outer margin of the fore-wing was as often absent as present; the central patch of the hind-wing was in one instance blue, in others white or reddish, and in several cases entirely absent. Considering that *only one form of male* was obtained, I think it undesirable to admit even sub-specific rank for any of the female forms found in Fiji. In Samoa this species was also very plentiful, and much smaller in size, and only varied in the amount of red on the upper-side in the females.

Xoïs sesara, Hew.

Lautoka, ♂ ♀. Nausori, ♀. Bua, ♂ ♀. Navaloa, ♂.

At Bua this species was very plentiful.

Melanitis leda, Linn.

Nausori, 2 ♂, 4 ♀. Satapaitea, 2 ♂ ♀. Lufilufi, ♀. Salilalonga, 3 ♂. Lautoka, ♂.

All the specimens obtained were ocellated forms. I am of opinion that *M. leda* is much better regarded as an extremely variable species, than as a number of locally distinct forms. Some of my Fijian specimens are identical with Australian, of which I have examined considerably over one hundred specimens without being able to detect any character that is not subject to variation.

Zizera labradus, Godt.

Bua, ♂ ♀. Navaloa, ♂ ♀. Apia, ♂ ♀. Lufilufi, ♂ ♀. Satapaitea, ♂ ♀.

Very common. I have this species from the New Hebrides and a great number of specimens from Eastern Australia from localities ranging from Cape York to Victoria, and find it variable as to size and coloration. I have Australian specimens identical with Butler's figure of *Z. caduca*,* and have no doubt that Druce was quite correct in considering it as a synonym of this species. My New Hebrides specimens are hardly different from some Australian specimens.

Zizera alsulus, Herrich-Schäffer.

Lufilufi, 3 ♂. Satapaitea, 4 ♂, 2 ♀.

I have already shown † that I consider that this is the older name for Mathew's *Lycæna lulu*.

Nacaduba samoensis, H. H. Druce.

Satapaitea, ♀.

Jamides woodfordi, Butler.

Bua, ♂ ♀.

Common. Unfortunately this species has not been figured, but I have little doubt that my determination is correct.

* P. Z. S., 1875, p. 616.

† Proc. Linn. Soc. N. S. Wales, 1903, p. 212.

Jamides carissima, Butler.

Lufilufi, ♂ ♀. Satapaitea, ♂ ♀.

Common.

Catochrysops enejus, Fabricius.

Bua, 4 ♂ ♀. Lufilufi, 2 ♂ ♀. Satapaitea, 3 ♂ ♀.
Lautoka, ♀.

These specimens are much smaller than the Australian form and have the ground colour somewhat whiter.

Catochrysops platissa, Herrich-Schäffer.

Satapaitea, 8 ♂, 2 ♀. Lufilufi, 11 ♂, 3 ♀.

Terias hccabe, Linn.

Nausori and Bua.

Common.

Padraona angustula, Herrich-Schäffer.

Nausori, ♂. Bua, ♂.